SHIMPO

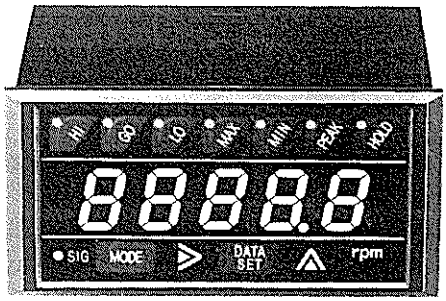
New Digital Tachometer

Model

DT-5TG

(Including DC POWER MODEL)

Instruction Manual



FEATURES:

- Multiple purpose digital tachometer measures rotational, linear, and flow rate speeds. If desired, this unit can also function as an elapse time counter or ratiometer.
- An insertion of new cassette type adapter increases functions. (CASSETTE TYPE OPTIONAL UNIT)
- All functions are easily set via front panel keys.
- Easy mounting, no brackets or screws are required.
- Any AC voltage between 85 and 264V will power to DT-5TG.
  (DC powered DT-5TG-DC:DC9～35V)

★Thank you for your purchase of SHIMPO new Digital Tachometer/Speedometer DT-5TG.
IMPORTANT:Read rule for safe installation, operation and instruction manual carefully and SAVE THIS INSTRUCTION MANUAL.

OPERATIONAL PRECAUTIONS

(POWER)

Make sure AC voltage is between 85 and 264V. (DC powered DT-5TG-DC:DC9～35V)

When installing unit, keep power and sensor wires separate.

(INPUT SIGNAL WIRE)

Connection wiring from sensors shall not be kept in the same or parallel conduit or cable as the power source, power or high voltage cables to avoid noise which may cause mulfunction.

Use shielded wire for input power connections in the shortest possible metal conduit.

(TERMINAL)

After inserting wires tighten terminals securely.

(ENVIRONMENT)

Protect instrument from water, oil and corrosive materials.

Do not use it in the place of vibration or shock.

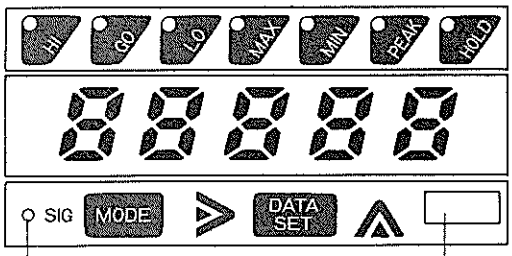
Use it in the place of normal temperature and no dew.

In case of using the instrument near motor including servo motor, inverter, solenoid contact switches, avoid noise by static electricity, etc.

Do not use it in the hazardous area.

NAMES OF KEY SWITCHES AND THEIR FUNCTION

FRONT PANEL



Signal lamp
Lamp will be lit when signal is input.

Unit seal space.

● To set mode, conditions

Mode key
Use this key to recall function(mode), and recall & change setting condition(parameter).

Digit key
Use this key to select digit shift, decimal point shift, field adjustment and display time, etc.

Data set key
Use when setting mode is completed, & measuring mode is commenced.

Increment key
Use this key to change setting value.

mm	kℓ	RPM	mm/min	Min/Sec
cm	q'ty	m/h	cm/min	Sec:
m	times	km/h	m/min	h:m
km	sheets	ℓ/h	cm/sec	m:s
ℓ	BPM	ℓ/min	h/sec	s:

Tack the necessary unit seal from the provided.

● To set upper and lower limit See P.10 for the settings.

Upper limit setting key
After pressing MODE HI keys for one second, set upper display limit.

The Go LED indicates the display is within the limit values.

Lower limit setting key
After pressing MODE & LO keys for one second, set lower display limit.

※Use optional unit DOP-CP to output signals.

● To set Max. Min. and Peak value

Max. display key
After pressing MODE & max. keys for one second, the display will show the average maximum measurement during the measuring period.

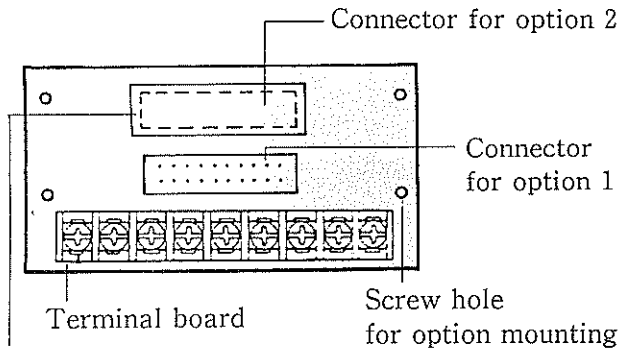
Min. display key
After pressing MODE & MIN. keys for one second, the display will show the average min. measurement during the measuring period.

Peak display key
After pressing MODE & Peak keys for one second, the display will show the absolute peak measurement during the measuring period.

Hold (HOLD value) key
Use this key to hold the display value(Lamp will be lit during holding.)

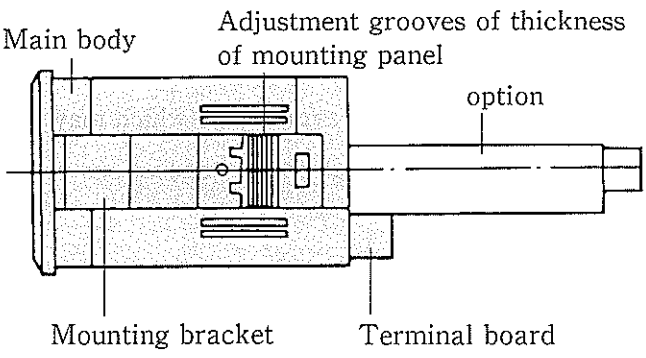
REAR PANEL

Basic model DT-5TG-☐



Seal is applied on connector for option-2 when you purchase DT-5TG-2.

OPTIONS are fixed.

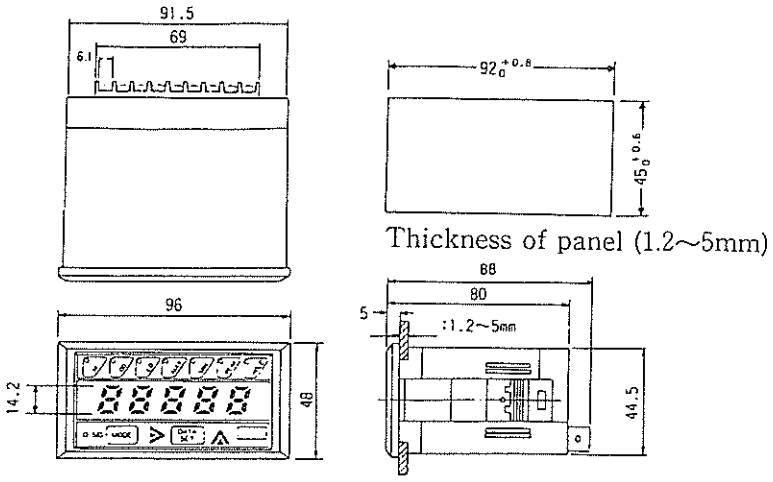


Basic model	Composition
DT-5TG-0	DT-5TG only
DT-5TG-1	DT-5TG+Adapter 1
DT-5TG-2	DT-5TG+Adapter 2

Note 1) Optional connector is not provided with DT-5TG. To use optional unit, obtain adapter and mount it on Tachometer.
Note 2) DT-5TG-1 is built with optional 1 connector.

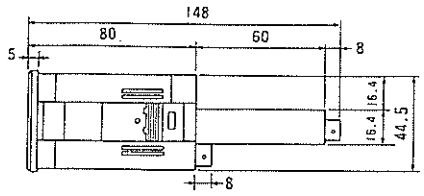
MOUNTING

DIMENSIONS

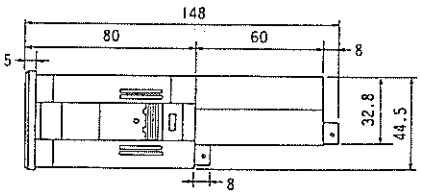


OPTIONAL UNIT

*Option 1 (EXAMPLE: DOP-BC, SD, PO)



*Option 2 (EXAMPLE: DOP-FV, VF)



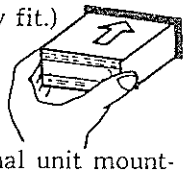
■This instrument features easy "Touch-in-mount method". Adjust mounting bracket to meet with the thickness of mounting panel.

1. Insert the provided adjusting tool into position adjusting hole. (See fig.)
2. Lift adjusting tool slightly and move mounting bracket left and right.
3. Set the hook of the mounting bracket into groove of panel thickness adjustment.

※ Please be careful not to warp the instrument body by mounting too strongly.

■To mount/remove into/from panel

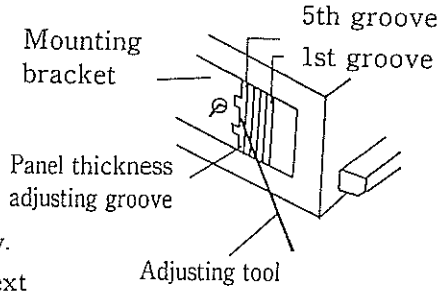
1. Insert DT-5TG into panel cutaway as the mounting bracket in level position. PULL DT-5TG straight out to remove. (If DT-5TG is loose in the panel cutaway, reset the mounting bracket until it will snugly fit.)
2. From the rear, alternately push unit to left and right. This will free unit from bracket for easy removal.



※See instruction manual for the optional unit mounting.

Mounting Bracket Adjustment groove

Thickness of panel	Panel thickness adjusting groove
1.2~1.6m/m	5th groove
1.8~2.5m/m	4th groove
2.8~3.6m/m	3rd groove
4.0~4.5m/m	2nd groove
5.0m/m	1st groove



※The instrument is set to 5th groove at factory.

※If the mounting is too loose, proceed to the next groove to tighten the mounting.

CONNECTIONS

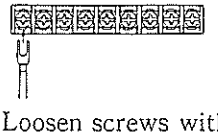
※Connect power with sensor on the terminals located in the rear of tachometer.

※Signal wire from sensor shall be shielded separately from power line.

※Connecting wires from sensor shall not be in the same metal conduit of high power line such as electric source, power high pressure line to immune noise and to avoid mulfunction.

■How to insert wires to terminals.

(For safety, turn power OFF for sure.)



※Loosen screws with screwdriver.

※Fasten solderless terminals onto wires and insert them into the loosened screws as shown in fig. on left.

※Tighten the screws with the screwdriver.

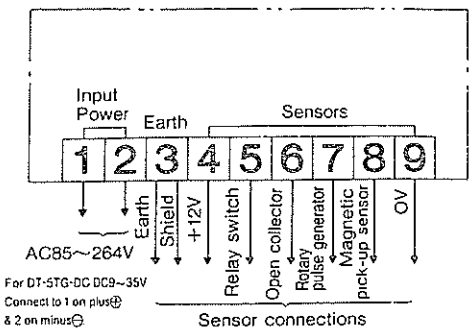
Use the following shield wires

Sensors		Shield wire	
Rotary pulse generator	RE1-□C	3 wires	0.3sq.
Proximity switch	SE-P12		
Retro-reflective sensor	SE-R		
Gear sensor	SE-G		
Magnetic pick up sensor	SE-M	2 wires	

Output voltage of magnetic pick up sensor	When output voltage 10Hz., 0.3Vp-p or more is required. When output voltage100Hz., 0.3Vp-p or more is required. When output voltage 1000Hz., 1.5Vp-p or more is required. When output voltage 10000Hz., 6.0Vp-p or more is required.

CONNECTIONS

CONNECTION DIAGRAM



According to sensors, connections are different as follows;

Type of input Signal	Sensor	Model (Shimpo)	Connection Terminals
Contact signals	Relay switch	—	5~9
Open collector	Retro-reflective sensor	SE-R2	4~6~9
Rectangular wave	Rotary pulse generator	REI-C	4~7~9
	Gear sensor	SE-G	
	Proximity switch	SE-P12	
Sine wave	Magnetic pick-up sensor	SE-M	8~9

Note
1)The pulse output from SHIMPO Autorator LA-A type shall be connected with 7 & 9 terminals.
2)Sensors shall be connected with specified terminals and other terminals shall be blank. Multple sensors can not be connected simultaneously.

MODE AND PARAMETER

This instrument can be used as 1. Speedometer and 2. Elapse time counter. Before shipment, this instrument has been adjusted as rotational tachometer which has the PERIODIC MULTIPLICATION function (Mode 1) of the conditions in the chart below. You may use this instrument without any resetting if your requirement is within the preset condition.

Setting Mode	Setting items Mode No.	Primary setting value Mode 1 Periodic multiplication
Parameter 1	Nos. of input pulse	1 p/r
Parameter 2	Preset rpm(Sensor)	50000 rpm
Parameter 3	Display value when reaches the preset value.	50000 rpm
Parameter 4	Decimal point	None
Parameter 5	Min. rpm(Sensor)	10 rpm
Parameter 6	Display cycle	1 second
Parameter 7	Pre-multiplication function	0(No function)

BEFORE OPERATION SET AS FOLLOWS.
1. Mode selection

Mode 1: Periodic multiplication — 1. To confirm actual rotational speed; 2. To set various display conditions
Mode 2: Elapse time counter — 3. To set various display conditions
Mode 5: Test mode — Self circuit test

FUNCTION (Mode) selection

Select mode according to the requirement.

Mode No.	Mode name	Applications	Main purpose
Mode 1	Periodic Multiplication	Nos. of pulse and pulse period can be measured and multiplied and displayed.	Rotational speed flow rate, and peripheral speed
Mode 2	Elapse time counter	Process time will be displayed from process length and process speed.	Elapse time
Mode 5	Test mode	To self-check the circuit	Troubleshooting

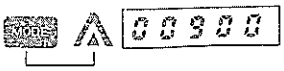
Mode 3:Voltage input tachometer
Mode 4:To use ratiometer, couple optional unit DOP-RM with main body.

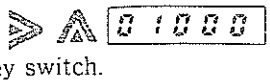
FIELD ADJUSTMENT FUNCTION

To measure actual rotational speeds, the following Field adjustment function may be set.

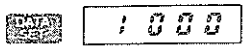
Complicated calculation is not necessary to set the measuring value. If DT-5TG shows 900 rpm, but nos. of pulses of sensor and speed reduction ratio is not known, you can simply input the actual rpm measured with handheld digital tachometer as the set rotational speed without setting parameter.

HOW TO SET

1. Press Mode & Inc. for over 5 sec. 

2. Adjust Digit & Inc. to set values. 

≫ ……To shift digit, use this key switch.
∧ ……To increase/decrease fig., use this key.
Every time press this key, the fig shifts
┌→0 → 1 → 2 → 3·····8 → 9┐ periodically.

3. Press Date set key. 

— Start measuring —

北京金三航科技发展有限公司 电话:010-51662244

SETTING MODE

Operation	Display	Remarks
1. Input power (AC85-264V)	0	When voltage power is input, 00000 will be displayed and change to 0.
2. Press MODE and DATA SET key at same time for 5 sec. (MODE, DATA SET)	- 1 - Mode 1	※Set mode will be displayed. ※When purchased, periodic multiplication mode primarily set will be displayed. ※Measuring mode will be changed to setting mode.
3. Press inc. key and select the required mode. (∧)	- 1 - Mode 1 - 2 - Mode 2 - 5 - Mode 5	Mode 3 & 4 will be displayed at the time optional unit will be coupled. At each touch of inc. key, - 1 - → - 2 - → - 5 - will be periodically changed.

Mode 1: To measure Rotational, Peripheral, & Flow rate, select periodic multiplication mode.

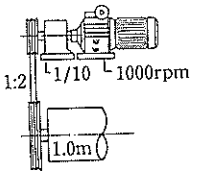
MODE 1 : To measure rotational speed, peripheral speed, flow rate, select PERIODIC MULTIPLICATION FUNCTION.

Set Parameter in the following procedures to set various display conditions.

■SET ITEM

Setting	Setting item	Primary set value
Mode	Mode No.	Mode 1: Periodic multiplication method
Parameter 1	Nos. of input pulses	1 p/r
Parameter 2	Set rpm (sensor)	50000 rpm
Parameter 3	Display value	50000 rpm
Parameter 4	Decimal point	None
Parameter 5	Min. rotational speed of sensor	10 rpm
Parameter 6	Periodic display	1 sec.
Parameter 7	Pre-multiplication function	0 (no function)

■EXAMPLE OF SETTING — Peripheral speed —



CONDITION
RPM of variator: 1000rpm ···Parameter 2
(MGS is built in 60P/r) ·····Parameter 1
With Reduction gear 1/10
Pulley ratio 1/2
Roll dia. 1.0m

When variator runs at 1000rpm, and the peripheral speed per m/min. is requested,

the peripheral speed of roll dia. 1.0m is obtained from the formula;
1000rpm×1/10×1/2×(1×3.14)=157m/min. ···Parameter 3

SETTING MODE

Operation	Display	Remarks
1,Input power (AC85-264V)	0	When voltage power is input, 00000 will be displayed and change to 0.
2,Press MODE and DATA SET key at same time for 5 sec.	- 1 - Mode 1	※Set mode will be displayed. ※When purchased, periodic multiplication mode primarily set will be displayed. ※Measuring model will be changed to setting mode.

SETTING PARAMETER

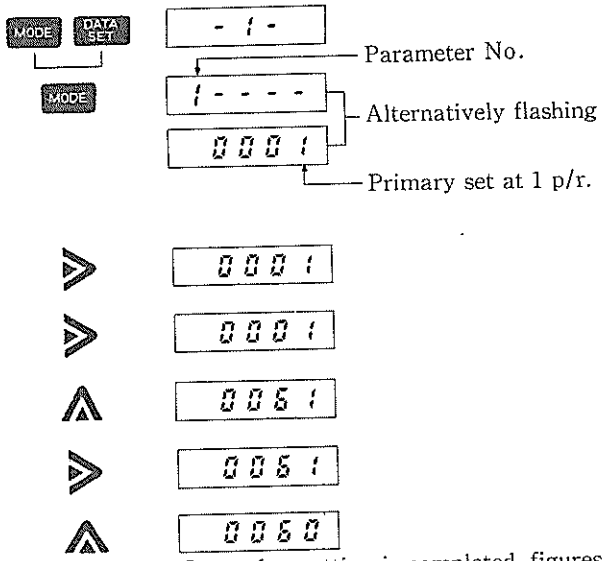
1 To set Parameter 1 (Nos. of Input pulses)

Example: In case 60 p/r

1. Set mode 1
2. Press mode key.

(Press digit key and increment key at the same time and set 60.)

3. Press digit key and the top fig. flashing.
4. Press digit key to flash 2nd digit.
5. Press inc. key to shift 2nd digit to 6.
6. Press digit key to flash 1st digit.
7. Press inc. key to shift 1st digit to 0.



(≫) To shift digit, press this digit key. Everytime pressing this key, the flashing digit will shift toward right. The value flashing means "Shifting".

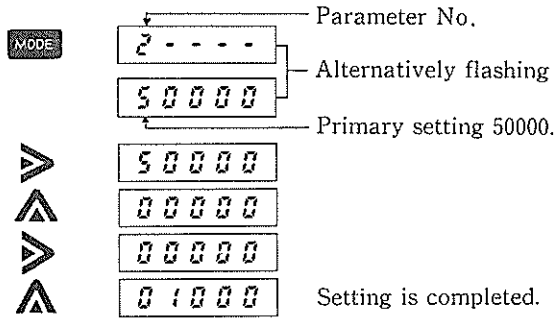
(∧) To inrease/decrease figures, press this key. Everytime pressing this key 0 - 1 - 2 - 3·····8 - 9 the flashing digit will shift toward right and back to the beginning figure.

MODE 1 : To measure rotational speed, peripheral speed, flow rate, select PERIODIC MULTIPLICATION FUNCTION.

2 Parameter 2 (Preset rpm) setting

Example: To set 1000 rpm.

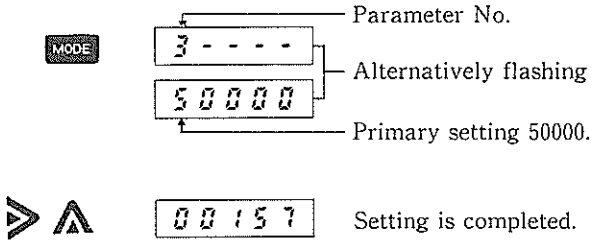
1. Press mode key.
   Press digit key and inc. key simultaneously and set 1000.
2. Flash top digit.
3. Change top digit zero.
4. Flash 4th digit.
5. Change 4th digit to 1.



3 Parameter 3 (The display value at the set rpm) setting

Example: To set 157

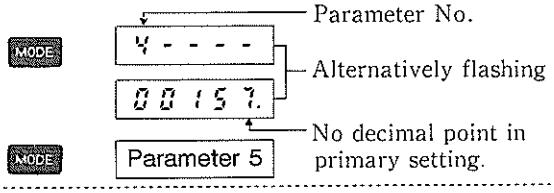
1. Press mode key.
2. Press digit key and Inc. key to set 157.
   (See Parameter 1 operation.)



4 Parameter 4 (Decimal point) setting

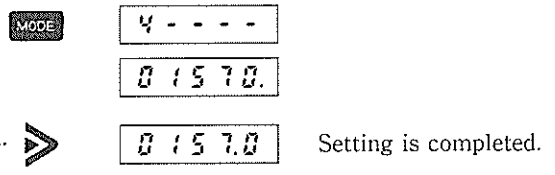
For example: When not to set decimal point.

1. Press mode key.
2. Press mode key again to get back to parameter 5.



For example: To display 157.0…set as

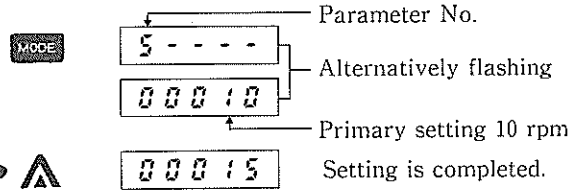
1. When decimal point display is required in parameter, set the figure in parameter 3 as to add 0 after the decimal point. 01570
2. After pressing mode key, set Parameter 4.
3. Press digit key and shift decimal point to the desired position.
   Decimal point shift everytime pressing digit key.



5 Parameter 5 (Min. rpm of sensing gear) setting

Example: To set 15 rpm.

1. Press mode key.
2. Press digit key and Inc. key and Inc. key simultaneously and set 15. (See Parameter 1 operation.)

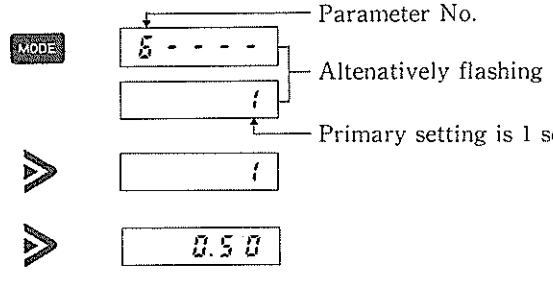


6 Parameter 6 (Setting display cycle)

For example: To set 0.5 sec.

1. Press mode key.
2. Press digit key once, then the primary setting of one sec. will flash.
3. Select 0.50 sec.

Select the best display cycle from 0.25, 0.50, 1, 2, 4, 8, 16sec.



Display cycle will be shifted. Setting is completed. →1→2→4→8→16→0.25→0.50→

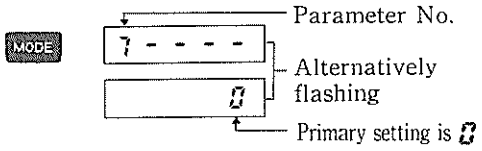
MODE 1: To measure rotational speed, peripheral speed, flow rate, select PERIODIC MULTIPLICATION FUNCTION.

7 Parameter 7 (Pre-multiplication) setting

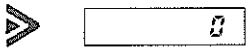
Note: See below for the details of pre-multiplication function.

1. Press mode key.

For example: For the time of no function.



2. If the digit key is processed, primary setting is 0.



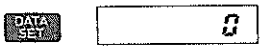
0 Zero will display.

Everytime pressing digit key, the number ↱0→1→2↰ will shift.

0: Shows no function.
1: Pre-multiplication at stopping.
2: Pre-multiplication at speed reducing.

8 Setting is completed. Measurement will be started.

1. Press data det key.



or measurement will be displayed.

※ Setting mode will be shifted to measuring mode and the measurement will be started.

Setting values will be stored at even when the electirc power is off by accident.

Set parameter may be recommended to be written on the name seal in the parameter note for convenience.

Set mode and parameter will automatically be locked for no man to change the set data. To change setting and release lock, press mode and data set keys at the same time for over 5 sec. Mode nos. set initially will be displayed and resetting can be ready.

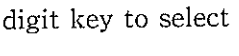
To use pre-arithmetic function

Pre-arithmetic function

When the speed of the rotatings increase or decrease rapidly, the conventional speedometer may not follow the display, of which value remains at the time of the machine stop. DT-5TG will pre-multiply the speed and absorb the delay in the display.

1. Pre-arithmetic at stopping

After rapid stopping, as the input pulses disappear (in case of input pulses disappear within 0.25sec.), the display will show 0 quickly because of pre-arithmatic function.

Press digit key to select 1. 

1) Pre-arithmetic function will be available at speed of 7rpm or faster (at 60p/r).

2. Pre-arithmetic at reducing speed.

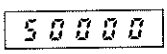
After reducing speed, as the input pulses disappear (in case of input pulses disappear within 0.25sec), the display will show nearly by 0 reverse-function of pre-arithmatic.

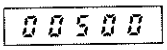
Press digit key to select 2.

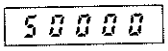
2) Pre-arithmatic will be stopped at the pulse input and cycle arithmatic will be started.

TO SET DECIMAL POINT

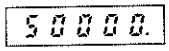
Example: To set the 2nd value from the decimal point.

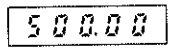
1. Change Parameter 2 

to 

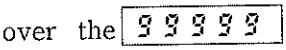
2. Do not change Parameter 3 

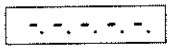
(Leave it as it is.)

3. Change Parameter 4 

to 

OVERFLOW DISPLAY

If the display pass over the 

(including decimal point), the display will be as 

MODE 2: TO MEASURE ELAPSE TIME.

Mode 2: Elapse time counter
This mode allows the operator to correctly time a certain process.

Note: DT-5TG may not be used as elapse time counter if the optional unit DOP-FV or DOP-VF is attached.

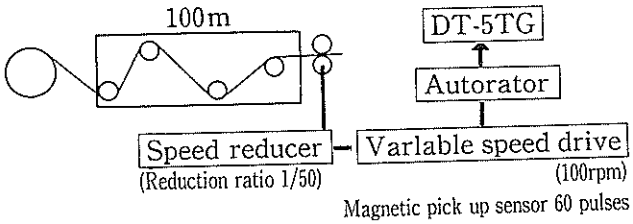
■SET ITEM

Setting	Setting item	Primary set value
Parameter 1	Nos. of input pulses	1 p/r
Parameter 2	Set rpm(sensor)	200 rpm
Parameter 3	Change over in the unit of hour, min. sec.	Hour and min., only.
Parameter 4	Display value at preset speed.	02 =.00 Calculation time
Parameter 5	Display cycle	1 sec.

※The DT-5TG is set to the abvoe values primarily before shipment from SHIMPO

■Example of Elapse timer

※Calculate elapse time 〔Setting example〕



Parameter 1……Magnetic pick-up sensor 60 pulses/r

Parameter 2 ……100 rpm

Linear speed=PSD of roller×rpm=0.1×3.14×100×1/50=0.628m/min.

Elapse time=$\frac{\text{Length of process}}{\text{Linear speed}}=\frac{100}{0.628}$=159.2min.

Parameter 3……↓

Parameter 4……2 hrs 39 min.

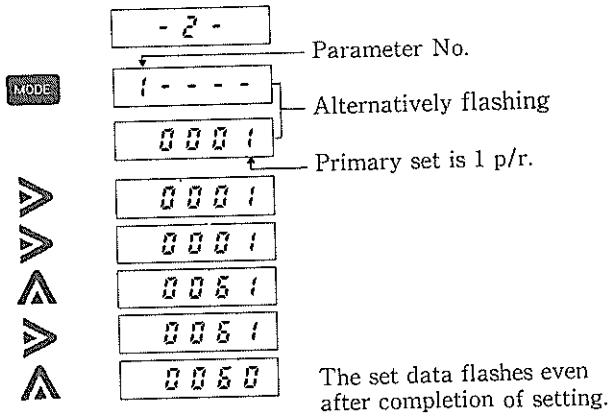
SETTING MODE

Operation	Display	Remarks
1. Input power (AC85-264V)	0	When voltage power is input, 00000 will be displayed and change to 0.
2. Press MODE and DATA SET key at same time for 5 sec. (MODE / DATA SET)	- 1 - Mode 1	※Set mode will be displayed. ※When purchased, periodic multiplication mode primarily set will be displayed. ※Measuring model will be changed to setting mode.
3. Press inc. key and select the required mode. (▲)	- 2 - Mode 2	Mode 3 & 4 will be displayed at the time optional unit will be coupled. At each touch of inc. key, - 1 - → - 2 - → - 5 - will be periodically changed.

1 Parameter 1 (Nos. of input pulses) setting

Example: To set 60 p/r

1. Set mode 2
2. Press mode key
   (Press digit key and inc. Key and set 60.)
3. Top figure flashes
4. The 2nd digit flashes.
5. The 2nd digit becomes 6.
6. The 1st digit flashes.
7. The 7th digit become zero.



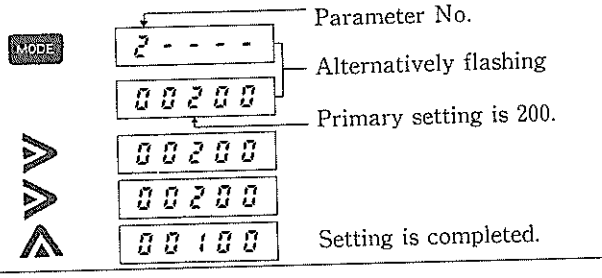
▶▶ ……is to shift the digit.
Everytime pressing this key, the digit shifts toward right and flashing indicates the changing position.

▲ ……is to be used to increase/decrease the figures.
Everytime pressing this key 0—1—2—3……8—9, the figure changes.

2 Parameter 2 (Set speed rpm) setting

Example: To set 100 rpm

1. Press mode key.
2. The top figure flashes.
3. The 3rd digit flashes.
4. Change 3rd digit to 1.

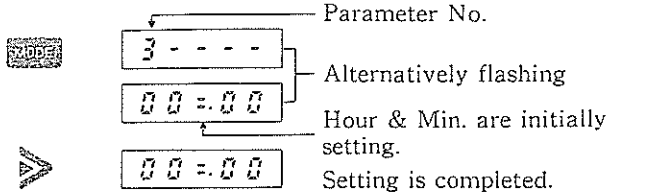


MODE 2: TO MEASURE ELAPSE TIME

3 Parameter 3 (Hr. Min. & Sec. unit) setting

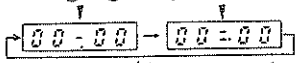
Example: To set Hr. Min. setting

1. Press mode key.



2. Select hour, minute unit.

Everytime pressing digit key, The figure will be changed as follows.



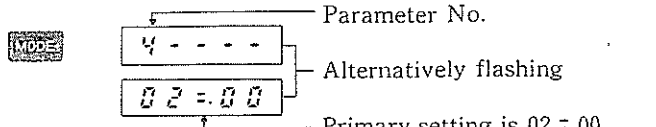
Note 1···Per second unit/For example 99 - 25 shows 99. 25 seconds

Note 2···Per hour & minute unit, min. & sec. unit/For example, 05 =.15 shows 5 hours and 15 seconds.

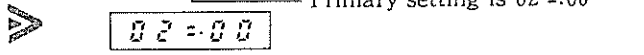
4 Parameter 4 (Display value at preset rotation/calculation time) setting

Example: To set 2 hours 39seconds

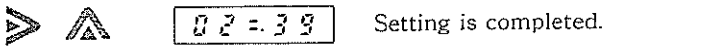
1. Press mode key.



2. Press digit key to flash top fig.



3. Press digit key and inc. key to set 0239. (See parameter 1 & 2 for right operation)



Note 1) Concerning limit over for hour, min., sec., unit. display range for hours, min., sec. is 99 =.59. For example in case 02 =.69 is set, the two digits show E(error) when pressing mode and data set keys. 02 =.E9

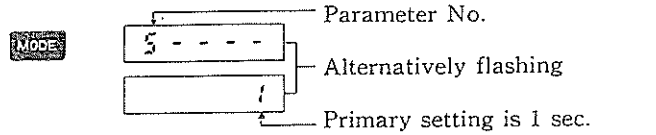
To remedy: Press digit key and display E digit and reset 0~5 fig. by inc. key.

5 Parameter 5 (Display cycle) setting

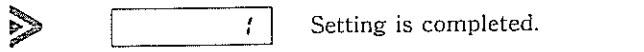
Example: To set 1 sec.

1. Press mode key.

※Select the best display cycle; 0.25, 0.50, 1, 2, 4, 8 or 16 sec.



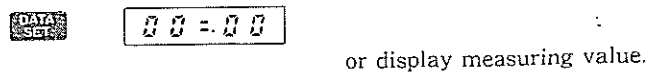
2. Press digit key and select 1 sec.



Everytime pressing display cycle key, display cycle changes from ┌→1→2→4→8→16→0.25→0.50┐ repeatedly.

6 Setting is over and start measuring.

1. Press data set key.



or display measuring value.

Mode will be changed from setting mode to measuring mode.

※When power is off, the value set before the power off will be stored in memory.

It is appropriate to make notes on parameter seal, located on top of the DT-5TG.

The preset mode, parameter set are locked automatically for protecting from mishandlings. To unlock and change the settings, press mode key and data set key simultaneously for over 5 seconds. The mode nos. set initially will be displayed. Resetting can be possible.

OVERFLOW DISPLAY WHEN ELAPSE TIME COUNTER MODE (MODE 2)

When elapse time counter mode is set, if the input pulse is nil or the elapse time passes 99hours(or min.) 59min. (or sec.), or 99sec. 99 and overflow is displayed, the followings will be displayed.

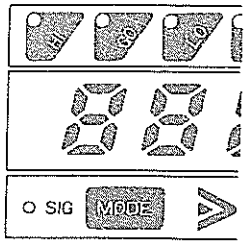
※When Hour(Min.) Min.(Sec.) -. -. =. -. -.

※When sec. -. -. -. -. -.

and if the input pulse is and the measuring value becomes within the range, the normal measuring value will be resumed.

TO USE EACH FUNCTION

To set and display upper and lower limit.



If the measuring value exceeds the upper limit, lamp will be lit.

If the measuring value falls between the upper and lower limit, the lamp will be lit.

If the measuring value is below the lower limit, the lamp will be lit.

Please set the value so that the value stays between upper and lower limit.

HI

	To set upper value to 1000. (Lamp is lit)	To set the upper limit to 1 hour(or min.)
1. Press MODE key and HI simultaneously for over 1 sec.	MODE + HI → 00000	The last display will flash and in a sec. upper limit can be set. → 00=.00
2. Press Digit and Inc. keys and match the setting value.	▷ △ → 01000	01=.00
3. Press DATA SET key.	DATA SET → 0	--=.--

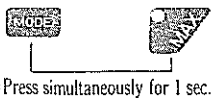
Lamp will be off and display cycle shown above will be displayed.

LO

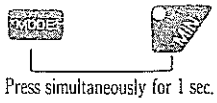
	To set lower value to 100. (Lamp is lit)	To set the lower limit to 10 min.(or sec.)
1. Press MODE and LO key simultaneously for over 1 sec.	MODE + LO → 00000	The last reading will fash and in a sec. the lower limit can be set. → 00=.00
2. Press Digit and Inc. keys and match the setting value.	▷ △ → 00100	01=.00
3. Press DATA SET key.	DATA SET → 0	--=.--

Lamp will be off and display cycle shown above will be displayed.

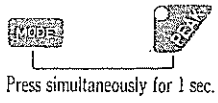
TO DISPLAY MAX.MIN. & PEAK



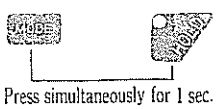
1. Pressing MODE and MAX keys simultaneously for over 1 sec. will change to MAX display mode and display MAX of the measurings from the time pressing both MODE and MAX. keys simultaneously to the present. MAX lamp will be lit during the display.



2. Pressing MODE and MIN. keys simultaneously for over 1 sec. will change to MIN display mode and display MIN of the measurings from the time pressing both MODE and MIN. keys simultaneously to the present. MIN lamp will be lit during the display.



3. Pressing MODE and PEAK keys simultaneously for over 1 sec. will change to PEAK display mode and display of the measurings from the time pressing both MODE & PEAK keys to the present. (The Max. value of every 0.25 sec.) PEAK lamp will be lit during the display.



4. Pressing MODE and HOLD keys simultaneously for over 1 sec. will hold the display value. HOLD lamp will be lit during the display.

Note: MAX. MIN. PEAK. & HOLD must be used separately.
Note: The above mode may be reset by interrupting power to the unit.

DATA SET To resume normal measuring mode press this switch.

北京金三航科技发展有限公司 电话:010-51662244

TROUBLESHOOTING

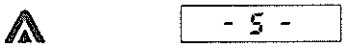
■SET TEST MODE (Mode 5) ※Perform testing after removing wiring of sensors.

1 Press Mode and Data set keys simultaneously for over 5 sec.

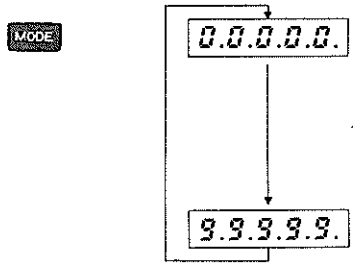
simultaneously

The mode set now will be displayed.

2 Press Inc. key and select Mode 5.



3 Press Mode key.



If 00000 up to 99999 flash repeatedly, it is normal function.

4 If the following fiqures flash for a sec., it is normal.

Pressing MAX key····· ····· 8.8.8.8.8.

Pressing MIN key····· ····· 1.1.1.1.1.

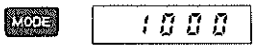
Pressing PEAK key····· 9.9.9.9.9.

Pressing HOLD key····· ····· [ ]

The last reading will be displayed for a second.

5 Press Mode key.

Normally displays the following figure.



SIG lamp will flash and display 1000.

※If the DT-5TG functions as the test mode, it is normal. Check the sensor or others.

6 Press data set key

Resume the previous mode before the test mode.

The test mode display during the operation in elapse time counter mode is as follows;

1·····[- 2 -] 5·····[0 1 :.0 0] ※When normal : hour(min.) min(sec)

[0 1 -.0 0] ※※When sec.

6·····Press data set key DATA SET

2.3.4·····Operation and display is the same as above.

FIELD ADJUSTMENT FUNCTION COVERS SETTING RANGE

$$\frac{1}{\text{Display value of setting rpm}} < \frac{\text{Desired value}}{\text{the last display value}} < \frac{\text{at 99999}}{\text{Display value at set rotational speed}}$$

Display value at set rpm: Value set at parameter 3.

The last display value: Value set in Field adjustment

Desired value: Field adjustment value against the above display value.

Set rotational speed value at dispatching is 50000;

$$\frac{1}{50000} < \frac{\text{Desired value}}{\text{The last value}} < 1.999 \quad \left(=\frac{99999}{50000}\right)$$

according to this formula, the setting value becomes double.

In case desired value surpasses the double set value, change setting value. For example, set the display value 10000 in setting rotational speed. When 99999÷10000 = 9.9999 so the desired value can be set not more than 9.9999 times. At this time, adjust the value of set rotational speed, and change parameter No.2 "Set rotational speed".

IN CASE THE FOLLOWING ERROR MESSAGE IS DISPLAYED, FOLLOW THESE TROUBLESHOOTINGS.

Item	Display message	Error contents	Troubleshootings.
1. Parameter input error	EE-00	Field adjustment setting error	1) Press DATA SET key to release error. 2) Re-enter parameter according to the procedures of field adjustment range at P.
	EE-01	In case upper/lower setting in HI/LO condition	1) Press data set key to release error. 2) Re-enter the upper and lower values.
2. Memory error	EE-02	Internal memory error	1) Press DATA SET key to release error. 2) In case EE-02 is repeatedly displayed, recharge the power. 3) In case EE-03 is displayed, proceed to EE-03 troubleshooting.
	EE-03	Memory recall error	1) Press DATA SET key and release error. 2) Press HI, HOLD, INC. & MODE keys in order, at this tme display figures are 11111, 22222, 33333, 44444. The primary setting values for DT-5TG will be transfered.
3. Communication error (At the time of inserting optional unit into DT-5TG)	EE-04	Error communication with optional unit	1) Confirm connections between optional unit and main body. 2) Press DATA SET key to release error.
	EE-05		
	EE-06	Error in confirming optional unit	

SPECIFICATIONS

Model	DT-5TG-□	
Mode	Rate measurement	Elapse time counter
Display range	0~99999, 0.0~9999.9 0.00~999.99, 0.000~99.999 0.0000~9.9999	99 sec 99 99min. 59 sec. 99hours. 59min
Measuring range	10~99999rpm (1p/r input Display period 1 sec.) 0.2~30000rpm (60p/r input Display period 1 sec.)	—
Display period	0.25, 05, 1, 2, 4, 8, 16sec. selectable	
Display	Red LED (Character height 14.2mm)	
Time base	Crystal oscillator (4.194304MHz)	
Accuracy	±0.008% ±1 digit	
Measuring system	CPU multiplication	
Nos. of input Pulses per rotation	1~9999p/r (setting method)	
Input signal wave form	Sine wave (10kHz MAX.), Square wave, open collector (30kHz MAX) Contact (20Hz MAX)	
Input signal voltage	Sine wave (0.3~30Vp-p) (Nos. of Input cycles), Square wave L: 0~1.5V, H: 4~30V	
Input impedance	Approx. 10kΩ	
Sensor Power Supply	DC12V ±5% 50mA max	
Applicable sensor	Rotary pulse generator, Magnetic pick-up, Gear sensor, Proximity swich, Retro-reflective sensor	
Ambient temperature	0~45℃ (32° to 113°F)	
Power requirement	1W (5W when optical unit is attached.) DT-5TG-DC:3W (5W when optical unit is attached.)	
Power	Operational capacity: AC 85~264V (50/60Hz) For DT-5TG-DC:DC9~35V	
Outside dimension	W96×H48×D88mm (DIN)	
Weight	250g	
Others	1. Comparator 2. Display mode (MAX. MIN. PEAK, HOLD) Change-over type.	

Manufactured by
NIDEC-SHIMPO CORPORATION
1 Terada,Kohtari,Nagaokakyo-city,Kyoto,Japan
Phone: (075)958-3608 Fax: (075)958-3647